Appln. No. 09/844,273 Amdt. dated April 2, 2004

Reply to Final Rejection of January 9, 2004

## **Amendments to the Claims:**

The following listing of claims replaces all previous listing of claims for this application.

## **Listing of the Claims:**

- 1. (Currently amended) The fuel injector for injecting fuel in an internal combustion engine, said injector having an injector housing (1) which communicates with a central high-pressure reservoir and a nozzle needle (14) that cooperates with a valve piston (6) which is axially displaceable and guided in a valve piece (2), the improvement wherein the end of the nozzle needle (14) toward the valve piston (6) protrudes into a guide sleeve (16), and the end of the valve piston (6) or an end of a thrust rod (8) triggered by the valve piston (6), oriented toward the nozzle needle (14) is also received in the guide sleeve (16), further comprising a cylindrical recess (22) formed on said guide sleeve (16), on its face end toward the nozzle needle (14).
- 2. (Currently amended) The fuel injector for injecting fuel in an internal combustion engine, said injector having an injector housing (1) which communicates with a central high-pressure reservoir and a nozzle needle (14) that cooperates with a valve piston (6) which is axially displaceable and quided in a valve piece (2), the improvement wherein the end of the nozzle

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the end of the valve piston (6) or an end of a thrust rod (8) triggered by the valve piston (6), oriented toward the nozzle needle (14) is also received in the guide sleeve (16), a The fuel injector according to claim 1, wherein in the end of the nozzle needle (14) toward the valve piston (6), a blind bore is embodied centrally of either the nozzle needle (14) or the guide sleeve (16), and the end of the valve piston (6), or an end of the thrust rod (8) is received in said bore.

- 3. (Previously amended) The fuel injector according to claim 1, wherein the valve piston (6) or the thrust rod (8), together with the guide sleeve (16) form a unit, and wherein a blind bore is formed centrally in an end of the unit toward the nozzle needle, the end of the nozzle needle (14) toward the valve piston being received in said blind bore.
- 4. (Previously amended) The fuel injector according to claim 1, wherein on the end of the nozzle needle (14) toward the valve piston (6), a thrust peg (15) is positioned, said thrust peg protruding into the guide sleeve (16) or into a central blind bore formed on the end of the valve piston (6).

- 5. (Previously amended) The fuel injector according to claim 1, further comprising a bearing disk on the face end of the guide sleeve (16) remote from the nozzle needle (14) between the guide sleeve (16) and a nozzle spring (18), said bearing disk forming an abutment for a nozzle spring (18).
- 6. (Previously amended) The fuel injector according to claim 1, further comprising a collar on the guide sleeve (16), on its face end remote from the nozzle needle (14), said collar (28) forming an abutment for a nozzle spring (18).
- 7. (Previously amended) The fuel injector according to claim 1, wherein the dimensions of the guide sleeve (16), on its face end remote from the nozzle needle (14), are adapted to the dimensions of a nozzle spring (18).
- 8. (Currently amended) The fuel injector according to <u>claim 12</u>, <u>claim 4</u>, further comprising a cylindrical recess (22) formed on said guide sleeve (16), on its face end toward the nozzle needle (14).

- 9. (Previously amended) The fuel injector according to claim 1, further comprising an adjusting piece (19) disposed between the nozzle needle (14) and either the valve piston (6) or the thrust rod (8).
- 10. (Currently amended) The fuel injector for injecting fuel in an internal combustion engine, said injector having an injector housing (1) which communicates with a central high-pressure reservoir and a nozzle needle (14) that cooperates with a valve piston (6) which is axially displaceable and guided in a valve piece (2), the improvement wherein the end of the nozzle needle (14) toward the valve piston (6) protrudes into a guide sleeve (16), and the end of the valve piston (6) or an end of a thrust rod (8) triggered by the valve piston (6), oriented toward the nozzle needle (14) is also received in the guide sleeve (16). The fuel injector according to claim 1, further comprising a thrust rod (8) cooperating axially with said valve piston (6), said thrust rod (8) being disposed so as to be slightly pivotable relative to the longitudinal axis of the valve piston (6).

- 11. (Previously amended) The fuel injector according to claim 10, further comprising a blind bore (7), in the end of the valve piston (6) toward the nozzle needle (14), said blind bore (7) receiving a tapering end of the thrust rod (8).
- 12. (Currently amended) The fuel injector for injecting fuel in an internal combustion engine, said injector having an injector housing (1) which communicates with a central high-pressure reservoir and a nozzle needle (14) that cooperates with a valve piston (6) which is axially displaceable and guided in a valve piece (2), the improvement wherein the end of the nozzle needle (14) toward the valve piston (6) protrudes into a guide sleeve (16), and the end of the valve piston (6) or an end of a thrust rod (8) triggered by the valve piston (6), oriented toward the nozzle needle (14) is also received in the guide sleeve (16). The fuel injector according to claim 1, wherein the end of the valve piston (6) toward the nozzle needle (14) can be deflected elastically in the radial direction out of the axis of symmetry of the valve piston (6).

- 13. (Previously amended) The fuel injector according to claim 3, wherein on the end of the nozzle needle (14) toward the valve piston (6), a thrust peg (15) is positioned, said thrust peg protruding into the guide sleeve (16) or into a central blind bore formed on the end of the valve piston (6).
- 14. (Previously amended) The fuel injector according to claim 2, further comprising a bearing disk on the face end of the guide sleeve (16) remote from the nozzle needle (14) between the guide sleeve (16) and a nozzle spring (18), said bearing disk forming an abutment for a nozzle spring (18).
- 15. (Previously amended) The fuel injector according to claim 4, further comprising a bearing disk on the face end of the guide sleeve (16) remote from the nozzle needle (14) between the guide sleeve (16) and a nozzle spring (18), said bearing disk forming an abutment for a nozzle spring (18).
- 16. (Previously amended) The fuel injector according to claim 2, further comprising a collar on the guide sleeve (16), on its face end remote from the nozzle needle (14), said collar (28) forming an abutment for a nozzle spring (18).

17. (Previously amended) The fuel injector according to claim 4, further comprising on the guide sleeve (16), on its face end remote from the nozzle needle (14), said collar (28) forming an abutment for a nozzle spring (18).

18. (Previously amended) The fuel injector according to claim 2, wherein the dimensions of the guide sleeve (16), on its face end remote from the nozzle needle (14), are adapted to the dimensions of a nozzle spring (18).

19. (Previously amended) The fuel injector according to claim 4, wherein the dimensions of the guide sleeve (16), on its face end remote from the nozzle needle (14), are adapted to the dimensions of a nozzle spring (18).

20. (Previously amended) The fuel injector according to claim 5, further comprising a cylindrical recess (22) formed on said guide sleeve (16), on its face end toward the nozzle needle (14).

- 21. (Previously amended) The fuel injector according to claim 6, further comprising a cylindrical recess (22) formed on said guide sleeve (16), on its face end toward the nozzle needle (14).
- 22. (Previously amended) The fuel injector according to claim 4, further comprising a cylindrical recess (22) formed on said guide sleeve (16), on its face end toward the nozzle needle (14).
- 23. (Previously amended) The fuel injector according to claim 2, further comprising an adjusting piece (19) disposed between the nozzle needle (14) and either the valve piston (6) or the thrust rod (8).
- 24. (Previously amended) The fuel injector according to claim 4, further comprising an adjusting piece (19) disposed between the nozzle needle (14) and either the valve piston (6) or the thrust rod (8).

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25. (Previously amended) The fuel injector according to claim 5, further comprising an adjusting piece (19) disposed between the nozzle needle (14) and either the valve piston (6) or the thrust rod (8).

26. (Previously amended) The fuel injector according to claim 2, further comprising a thrust rod (8) cooperating axially with said valve piston (6), said thrust rod (8) being disposed so as to be slightly pivotable relative to the longitudinal axis of the valve piston (6).

27. (Previously amended) The fuel injector according to claim 3, further comprising a thrust rod (8) cooperating axially with said valve piston (6), said thrust rod (8) being disposed so as to be slightly pivotable relative to the longitudinal axis of the valve piston (6).

28. (Previously amended) The fuel injector according to claim 7, further comprising a thrust rod (8) cooperating axially with said valve piston (6), said thrust rod (8) being disposed so as to be slightly pivotable relative to the longitudinal axis of the valve piston (6).

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29. (Previously amended) The fuel injector according to claim 2, further comprising a blind bore (7), in the end of the valve piston (6) toward the nozzle needle (14), said

blind bore (7) receiving a tapering end of the thrust rod (8).

30. (Previously amended) The fuel injector according to claim 2, wherein the end of the valve piston (6) toward the nozzle needle (14) can be deflected elastically in the radial direction out of the axis of symmetry of the valve piston (6).